

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Please cancel claims 1-3, 5-7, 9-14, 36-46, 53-54, and 56-57 without prejudice to further prosecution of the subject matter in a related divisional, continuation, or continuation-in-part application. Please add new claims 58-71.

Listing of Claims

1. - 57. (Cancelled)

58. (New) An assay device for determining the presence of cancer or a propensity to develop cancer in an animal, said device comprising an array of immunoglobulin molecules, or derivatives thereof, immobilized to discrete regions on a solid support, wherein each discrete region comprises an immunoglobulin or derivative thereof specific for a different cell surface antigen, and wherein, with the exception of a negative control, each immunoglobulin molecule is capable of interacting with a biological sample comprising a cell expressing the respective cell surface antigen, and wherein interactions between the immunoglobulin molecules and their respective cell surface antigens establishes concurrently a discriminatory image of antigen expression indicative of the presence of cancer or a propensity to develop cancer, wherein cancer is selected from the group consisting of leukemia, fibrosarcoma, myxosarcoma, Ewing's sarcoma, granulocytic leukemia, basal cell carcinoma, colon cancer, gastric cancer, and skin cancer.

59. (New) An assay device for determining the presence of cancer or a propensity to develop cancer in an animal, said device comprising an array of immunoglobulin molecules, or derivatives thereof, immobilized to discrete regions on a solid support, wherein each discrete region comprises an immunoglobulin or derivative thereof specific for a different cell surface antigen, and wherein, with the exception of a negative control, each immunoglobulin molecule is capable of interacting with a biological sample comprising a cell expressing the

respective cell surface antigen, and wherein interactions between the immunoglobulin molecules and their respective cell surface antigens establishes concurrently a discriminatory image of antigen expression indicative of the presence of cancer or a propensity to develop cancer, wherein cancer is leukemia.

60. (New) The assay device according to claim 59 wherein leukemia is selected from the group consisting of chronic myeloid leukemia (CML); acute myelomonocytic leukemia (AMML); acute lymphocytic leukemia (ALL); acute erythrocytic leukemia (AEL); acute megakaryocytic leukemia (AMegL); acute monocytic leukemia (AMoL); acute myeloid leukemia (AML); non-Hodgkin's lymphoma (NHL); acute promyelocytic leukemia (APL); chronic lymphocytic leukemia (CLL); hairy cell leukemia (HCL); and acute promyelocytic leukemia (APL).

61. (New) The assay device of any one of claim 58-60, wherein the cell surface antigen is selected from the group consisting of a cluster of differentiation (CD) antigen; a myeloid (MY) antigen; and a lymphoid (LY) antigen expressed on leukemic cells.

62. (New) An assay device for determining the presence of a disease or disorder of the immune system in an animal, said device comprising an array of immunoglobulin molecules, or derivatives thereof, immobilized to discrete regions on a solid support, wherein each discrete region comprises an immunoglobulin or derivative thereof specific for a different cell surface antigen, and wherein, with the exception of a negative control, each immunoglobulin molecule is capable of interacting with a biological sample comprising a cell expressing the respective cell surface antigen, and wherein interactions between the immunoglobulin molecules and their respective cell surface antigens establishes concurrently a discriminatory image of antigen expression indicative of the presence of disease or disorder of the immune system, wherein the disease or disorder of the immune system is selected from the group consisting of an autoimmune disease, infection by a pathogen, congenital immunodeficiency, adverse reaction following bone marrow or tissue transplantation, and chronic fatigue syndrome.

63. (New) An assay device for determining the presence of a disease or disorder of the immune system in an animal, said device comprising an array of immunoglobulin molecules, or derivatives thereof, immobilized to discrete regions on a solid support, wherein each discrete region comprises an immunoglobulin or derivative thereof specific for a different cell surface antigen, and wherein, with the exception of a negative control, each immunoglobulin molecule is capable of interacting with a biological sample comprising a cell expressing the respective cell surface antigen, and wherein interactions between the immunoglobulin molecules and their respective cell surface antigens establishes concurrently a discriminatory image of antigen expression indicative of the presence of disease or disorder of the immune system, wherein the disease or disorder of the immune system is an autoimmune disease.

64. (New) The assay device according to claim 63 wherein the autoimmune disease is selected from the group consisting of Type 1 diabetes, multiple sclerosis, myasthenia gravis, pernicious anemia, psoriasis, rheumatoid arthritis, scleroderma, and systemic lupus erythematosus.

65. (New) An assay device for determining the presence of a disease or disorder of the immune system in an animal, said device comprising an array of immunoglobulin molecules, or derivatives thereof, immobilized to discrete regions on a solid support, wherein each discrete region comprises an immunoglobulin or derivative thereof specific for a different cell surface antigen, and wherein, with the exception of a negative control, each immunoglobulin molecule is capable of interacting with a biological sample comprising a cell expressing the respective cell surface antigen, and wherein interactions between the immunoglobulin molecules and their respective cell surface antigens establishes concurrently a discriminatory image of antigen expression indicative of the presence of disease or disorder of the immune system, wherein the disease or disorder of the immune system is an infection by a pathogen.

66. (New) The assay device of claim 65, wherein the pathogen is selected from the group consisting of a virus, a bacterium, a protozoan, and a fungus.

67. (New) The assay device of claim 66, wherein the virus is selected from the group consisting of HIV-1, Hepatitis virus, and Epstein-Barr virus.

68. (New) The assay device of claim 66, wherein the protozoan is a malaria parasite.

69. (New) The assay device of any one of claims 58, 59, 62, 63, and 65 wherein the animal is a human or non-human animal.

70. (New) The assay device of any one of claims 58, 59, 62, 63, and 65, wherein the interaction of the cell surface antigen with an immobilized immunoglobulin is determined using a labeled antibody specific for the same cell surface antigen or specific for a different cell surface antigen associated with said first cell surface antigen.

71. (New) The assay device of any one of claims 58, 59, 62, 63, and 65, wherein the immunoglobulins or derivatives thereof are bound to the array covalently or wherein the immunoglobulins or derivatives thereof are bound to protein G that is first coated on the solid support.